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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------|
| 10/004,660 | 12/03/2001 | Hiroshi Miyajima | 15126 | 9638 |
| 7590 08/05/2004 | | | | |
| Scully, Scott, Murphy & Presser 400 Garden City Plaza Garden City, NY 11530-0299 | | | | |
| | | | EXAMINER ALLEN, DENISE S | |
| | | | ART UNIT 2872 | PAPER NUMBER |

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|-----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/004,660 | MIYAJIMA ET AL. | |
| | Examiner | Art Unit | |
| | Denise S Allen | 2872 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 and 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/6/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

The finality of the Office action mailed on June 3, 2004 is hereby withdrawn in view of the new ground of rejection set forth below.

Accordingly, the Amendment submitted on July 16, 2004 will be entered. See MPEP 706.07(e).

Information Disclosure Statement

The information disclosure statement (IDS) submitted on May 6, 2004 was filed after the mailing date of the first Office Action on December 22, 2003 and before the mailing date of the Final Office Action on June 3, 2004. The submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

While the information disclosure statement (IDS) submitted on May 6, 2004 was submitted before the mailing of the Final Office Action, it was not available to the examiner until after the mailing of the Final Office Action. Since the submission of the information disclosure statement on May 6, 2004 prompted the new grounds of rejection presented below, this action will be made final. See MPEP § 609(B)(2)(i).

Allowable Subject Matter

The indicated allowability of claims 2 and 3 is withdrawn in view of the newly discovered reference(s) to Ueda et al (US 4,421,381). Claims 2 and 3 would not have been indicated allowable, if the information disclosure statement containing Ueda et al had been

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available to the examiner prior to the mailing of the Final Office Action. Rejections based on the newly cited reference(s) follow.

Response to Arguments

Applicant's arguments with respect to claims 2 and 3 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 2 is objected to because of the following informalities: the limitation "the electric-surface forming surface" (line 18) lacks antecedent basis because it has not been previously recited. Suggested correction: replace the limitation with "the electric-element forming surface". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al (US 6,188,504) in view of Ueda et al.

Regarding claim 2, Murakami et al teaches a mirror rocking member (Figures 36 - 44) for an optical deflector, which comprises the mirror rocking member for deflecting light, and driving means (references 704, 706, 719, and 720) for driving the member, the mirror rocking member comprising: a movable plate (reference 701) having a reflective surface (reference 705); elastic members (reference 702) for rockably supporting the movable plate; and a support (reference

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703) for supporting the elastic members, the movable plate having an electric element (reference 706), which constitutes a part of the driving means, the movable plate including a first portion (Figure 37 the layer at reference 705) having the reflective surface, and a second portion (the layers at the top) including an electric element, the first portion having a reflective-surface forming surface (reference 705) with the reflective surface formed thereon, the reflective-surface forming surface being reflective (column 42 lines 1 – 4) substantially throughout (the entire surface of reference 705), the second portion having an electric-element forming surface (the top surface of reference 701) with the electric element formed thereon and the reflective-surface forming surface of the first portion being formed in such a shape as to be substantially inscribed in the electric-element forming surface of the second portion (the reflective-forming surface, the bottom surface of the movable plate, is substantially enclosed within the perimeter of the electric-element forming surface so that every vertex, all four corners of the rectangle, of the reflective-forming surface is incident on the perimeter of the electric-element forming surface at the corners of the electric-element forming surface), wherein the reflective surface forming surface of the first portion has an area smaller than an area of the electric-element forming surface of the second portion (the area of the reflective surface forming surface is smaller than the area of the electric element forming surface due to the tapered sides of reference 701), and the reflective-surface forming surface of the first portion is positioned opposite to the electric-element forming surface of the second portion in the direction of the thickness of the movable plate (reference 705 is on the bottom of reference 701 and reference 706 is on the top of reference 701); wherein the electric-element forming surface of the second portion has a rectangular shape (see Figure 39), and the reflective-surface forming surface of the first portion

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has a rectangular shape (see Figures 36 and 37). Murakami et al does not teach the reflective-surface forming surface of the first portion has an elliptical shape.

Ueda et al teaches a mirror rocking member (Figure 16) having a movable plate (reference 2) which has a first portion (area containing reference 4) and a second portion (area containing reference 5); wherein the second portion includes an electric-element (reference 5) and has a rectangular shape; wherein the first portion includes a reflective surface (reference 4) and has an elliptical shape (note that a circle is a special case of an ellipse); and wherein the reflective surface forming surface is substantially inscribed in and has area smaller than the electric-element forming surface (see Figure 16). It would have been obvious to one of ordinary skill in the art at the time of the invention to make the reflective-surface forming surface of Murakami et al in the elliptical shape of Ueda et al in order to capture the projection of a circular beam that is incident at an angle.

Regarding claim 3, Murakami et al in view of Ueda et al discloses the claimed invention except for the reflective surface forming surface having a dodecagonal shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the reflective surface forming surface in a dodecagonal shape, since it has been held that a mere change in shape of an element is generally recognized as being within the level of ordinary skill in art when the change in shape is not significant to the function of the combination. Further, one would have been motivated to select the shape of a dodecagon for the purpose of capturing the projection of a non-circular beam.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Peeters et al (US 6,411,427) is cited as an exemplary reference showing that it is well known to select the shape of a reflective surface to capture the projection of an incident light beam (column 3 lines 61 – 67).

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on May 6, 2004 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (571) 272-2305. The examiner can normally be reached on Monday - Friday, 9:00am - 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Denise S Allen
Examiner
Art Unit 2872


dsa

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